

*Globodynsky*

CRF Errors Corrected by the STIC System Branch

1652  
3/29/2001  
AN (STIC staff)

Serial Number:

09/657,289A

ENTERED

CRF Processing Date:

Entered by:

Entered by:

☐

Changed a file from non-ASCII to ASCII

☐

Changed the margins in cases where the sequence text was "wrapped" down to the next line.

☐

Edited a format error in the Current Application Data section, specifically:

☐

Edited the Current Application Data section with the actual current number. The number inputted by the applicant was ☐ the prior application data; or ☐ other \_\_\_\_\_

☐

Added the mandatory heading and subheadings for "Current Application Data".

☐

Edited the "Number of Sequences" field. The applicant spelled out a number instead of using an integer.

☐

Changed the spelling of a mandatory field (the headings or subheadings), specifically:

☐

Corrected the SEQ ID NO when obviously incorrect. The sequence numbers that were edited were:

☐

Inserted or corrected a nucleic number at the end of a nucleic line. SEQ ID NO's edited:

☐

Corrected subheading placement. All responses must be on the same line as each subheading. If the applicant placed a response below the subheading, this was moved to its appropriate place.

☐

Inserted colons after headings/subheadings. Headings edited included:

☐

Deleted extra, invalid, headings used by an applicant, specifically:

☐

Deleted: ☐ non-ASCII "garbage" at the beginning/end of files; ☐ secretary initials/filename at end of file; ☐ page numbers throughout text; ☐ other invalid text, such as \_\_\_\_\_

☐

Inserted mandatory headings, specifically: \_\_\_\_\_

☐

Corrected an obvious error in the response, specifically:

☐

Edited identifiers where upper case is used but lower case is required, or vice versa.

☐

Corrected an error in the Number of Sequences field, specifically:

☐

A "Hard Page Break" code was inserted by the applicant. All occurrences had to be deleted

☐

Deleted *ending* stop codon in amino acid sequences and adjusted the "(A)Length:" field accordingly (error due to a PatentIn bug). Sequences corrected: \_\_\_\_\_

☒

Other:

*Seq 15-19 - moved 2237 response on line*

Examiner:

The above corrections must be communicated to the applicant in the first Office Action. DO NOT send a copy of this form.

3/1/95

RAW SEQUENCE LISTING  
 PATENT APPLICATION: US/09/657,289A

DATE: 03/29/2001  
 TIME: 12:53:23

Input Set : A:\Pto.amc  
 Output Set: N:\CRF3\03292001\I657289A.raw

P5

3 <110> APPLICANT: Francis, Kevin P.  
 4 Contag, Pamela R.  
 5 Joh, Danny J.  
 7 <120> TITLE OF INVENTION: LUCIFERASE EXPRESSION CASSETTES AND METHODS OF USE  
 9 <130> FILE REFERENCE: 9400-0006  
 11 <140> CURRENT APPLICATION NUMBER: US/09/657,289A  
 12 <141> CURRENT FILING DATE: 2000-09-07  
 14 <160> NUMBER OF SEQ ID NOS: 26  
 16 <170> SOFTWARE: PatentIn Ver. 2.0  
 18 <210> SEQ ID NO: 1  
 19 <211> LENGTH: 6  
 20 <212> TYPE: DNA  
 21 <213> ORGANISM: Artificial Sequence  
 23 <220> FEATURE:  
 24 <223> OTHER INFORMATION: Description of Artificial Sequence: Gram-positive  
 25 ribosome binding site  
 27 <400> SEQUENCE: 1  
 28 aggagg 6  
 30 <210> SEQ ID NO: 2  
 31 <211> LENGTH: 41  
 32 <212> TYPE: DNA  
 33 <213> ORGANISM: Artificial Sequence  
 35 <220> FEATURE:  
 36 <223> OTHER INFORMATION: Description of Artificial Sequence: Primer XAF3  
 38 <400> SEQUENCE: 2  
 39 ccccgatcc tgcagatgaa gcaagaggag gactctctat g 41  
 41 <210> SEQ ID NO: 3  
 42 <211> LENGTH: 36  
 43 <212> TYPE: DNA  
 44 <213> ORGANISM: Artificial Sequence  
 46 <220> FEATURE:  
 47 <223> OTHER INFORMATION: Description of Artificial Sequence: Primer XAR  
 49 <400> SEQUENCE: 3  
 50 ggcggatccg tcgacttaat ataatagcga acgttg 36  
 52 <210> SEQ ID NO: 4  
 53 <211> LENGTH: 39  
 54 <212> TYPE: DNA  
 55 <213> ORGANISM: Artificial Sequence  
 57 <220> FEATURE:  
 58 <223> OTHER INFORMATION: Description of Artificial Sequence: Primer XBF  
 60 <400> SEQUENCE: 4  
 61 gggaattctc gaggaggaga gaaagaaatg aaatttgga 39  
 63 <210> SEQ ID NO: 5  
 64 <211> LENGTH: 37  
 65 <212> TYPE: DNA  
 66 <213> ORGANISM: Artificial Sequence  
 68 <220> FEATURE:

RAW SEQUENCE LISTING  
 PATENT APPLICATION: US/09/657,289A

DATE: 03/29/2001  
 TIME: 12:53:23

Input Set : A:\Pto.amc  
 Output Set: N:\CRF3\03292001\I657289A.raw

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69 <223> OTHER INFORMATION: Description of Artificial Sequence: Primer XBR
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72 ggcggatccg tcgacttagg tatattccat gtggtac 37
74 <210> SEQ ID NO: 6
75 <211> LENGTH: 34
76 <212> TYPE: DNA
77 <213> ORGANISM: Artificial Sequence
79 <220> FEATURE:
80 <223> OTHER INFORMATION: Description of Artificial Sequence: Primer XCF
82 <400> SEQUENCE: 6
83 gggaattctc gaggaggatg gcaaatatga ctaa 34
85 <210> SEQ ID NO: 7
86 <211> LENGTH: 37
87 <212> TYPE: DNA
88 <213> ORGANISM: Artificial Sequence
90 <220> FEATURE:
91 <223> OTHER INFORMATION: Description of Artificial Sequence: Primer XCR
93 <400> SEQUENCE: 7
94 ggcggatccg tcgacttatg ggacaaatac aaggaac 37
96 <210> SEQ ID NO: 8
97 <211> LENGTH: 37
98 <212> TYPE: DNA
99 <213> ORGANISM: Artificial Sequence
101 <220> FEATURE:
102 <223> OTHER INFORMATION: Description of Artificial Sequence: Primer XDF
104 <400> SEQUENCE: 8
105 gggaattctc gaggaggagt aaaagtatgg aaaatga 37
107 <210> SEQ ID NO: 9
108 <211> LENGTH: 37
109 <212> TYPE: DNA
110 <213> ORGANISM: Artificial Sequence
112 <220> FEATURE:
113 <223> OTHER INFORMATION: Description of Artificial Sequence: Primer XDR
115 <400> SEQUENCE: 9
116 ggcggatccg tcgacttaag acagagaaat tgcttga 37
118 <210> SEQ ID NO: 10
119 <211> LENGTH: 39
120 <212> TYPE: DNA
121 <213> ORGANISM: Artificial Sequence
123 <220> FEATURE:
124 <223> OTHER INFORMATION: Description of Artificial Sequence: Primer XEF
126 <400> SEQUENCE: 10
127 gggaattctc gaggaggaaa acaggtatga cttcatatg 39
129 <210> SEQ ID NO: 11
130 <211> LENGTH: 38
131 <212> TYPE: DNA
132 <213> ORGANISM: Artificial Sequence
134 <220> FEATURE:
135 <223> OTHER INFORMATION: Description of Artificial Sequence: Primer XER

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## RAW SEQUENCE LISTING

DATE: 03/29/2001

PATENT APPLICATION: US/09/657,289A

TIME: 12:53:23

Input Set : A:\Pto.amc

Output Set: N:\CRF3\03292001\I657289A.raw

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137 <400> SEQUENCE: 11
138 ggcggatccg tcgacttaac tatcaaacgc ttcggtta 38
140 <210> SEQ ID NO: 12
141 <211> LENGTH: 20
142 <212> TYPE: DNA
143 <213> ORGANISM: Artificial Sequence
145 <220> FEATURE:
146 <223> OTHER INFORMATION: Description of Artificial Sequence: LUXA-REV
148 <400> SEQUENCE: 12
149 ccacactcct cagagatgcg 20
151 <210> SEQ ID NO: 13
152 <211> LENGTH: 6
153 <212> TYPE: DNA
154 <213> ORGANISM: Artificial Sequence
156 <220> FEATURE:
157 <223> OTHER INFORMATION: Description of Artificial Sequence: BamH I
158 recognition sequence
160 <400> SEQUENCE: 13
161 ggatcc 6
163 <210> SEQ ID NO: 14
164 <211> LENGTH: 37
165 <212> TYPE: DNA
166 <213> ORGANISM: Artificial Sequence
168 <220> FEATURE:
169 <223> OTHER INFORMATION: Description of Artificial Sequence: vector
170 sequence
172 <400> SEQUENCE: 14
173 ggatcctgca gatgaagcaa gaggaggact ctctatg 37
175 <210> SEQ ID NO: 15
176 <211> LENGTH: 645
177 <212> TYPE: DNA
178 <213> ORGANISM: Artificial Sequence
180 <220> FEATURE:
181 <223> OTHER INFORMATION: Description of Artificial Sequence: pMK4 luxABCDE Sal
183 <400> SEQUENCE: 15
184 atttatctaa agatgagatt aagccaatag aacgtcatta gcaaaataaa ttatattgcg 60
185 tcctacaagc aagttcatgc ttatgtttgt aggggggttat tgtggagaat aaaattattt 120
186 ccaatagaga agggatggta atcattttat agtgaaatat tatgaaattg taataattta 180
187 gatattgtaa aatctaataa gttgtaataa ttttaagggg taattataaa atttgatgat 240
188 acagtatatg atttttttgt aatcataatg tcatcaaaaca tcaacctatt atacataata 300
189 aaatcgtata atgatgtagt attcataaat tcggataaaa gaatgttagg aaagttaagc 360
190 aagaggagga ttttaaagtg caaaaaaag taattgcagc tattattggg acaagcgcg 420
191 ttagcgctgt tgcggcaact caagcaaag cggctacaac tcacacagta aaaccgggtg 480
192 aatcagtgtg ggcaatttca aataagtatg ggatttcgat tgctaaatta aagtcattaa 540
193 acaatttaac atctaataa attttcccaa accaagtact aaaagtatct ggctcaagta 600
194 attctacgag taatagtagc cgtccatcaa cgaactcagg tggcg 645
196 <210> SEQ ID NO: 16
197 <211> LENGTH: 671
198 <212> TYPE: DNA

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RAW SEQUENCE LISTING  
PATENT APPLICATION: US/09/657,289A

DATE: 03/29/2001  
TIME: 12:53:23

Input Set : A:\Pto.amc  
Output Set: N:\CRF3\03292001\I657289A.raw

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199 <213> ORGANISM: Artificial Sequence
201 <220> FEATURE:
W--> 202 <221> NAME/KEY: base_polymorphism
203 <222> LOCATION: 26
204 <223> OTHER INFORMATION: /note = "'n' represents an a or g or t or c polymorphism at this
205 position
207 <220> FEATURE:
W--> 208 <221> NAME/KEY: base_polymorphism
209 <222> LOCATION: 79
210 <223> OTHER INFORMATION: /note = "'n' represents an a or g or t or c polymorphism at this
211 position
213 <220> FEATURE:
214 <223> OTHER INFORMATION: Description of Artificial Sequence: pMK4 luxABCDE Sa2
216 <400> SEQUENCE: 16
W--> 217 aaaaaatgag gggtagagacg tgaaantaaa gaaagataac gtagagaagc aatcagccac 60
W--> 218 caaattgata gcaatcccnt tcatcacaga ccatgaacta agcgacttat ttcaaagtga 120
219 gtatacaaac aattcggttta gatcgcaactt atttaaacat accagaatta agaagcgtat 180
220 taaattagtt gctgaaaaga attatgacca aataagttct attgaagaac aagaatttat 240
221 tggtagattg attcaagtca atccaaatgt taaagcgcaa tcaatttttag atattacatc 300
222 ggattctggt ttctataaaa ctggaattgc gcgtggtcat gtgctgtttg ctcaggcaaa 360
223 ttcgttatgt gttgcgctaa ttaagcaacc aacagtttta actcatgaga gtagcattca 420
224 atttattgaa aaagtataat taaatgatac ggtaagagca gaagcacgag ttgtaaatca 480
225 aactgcaaaa cattattacg tcgaagtaaa gtcatatgtt aaacatacat tagttttcaa 540
226 aggaaatttt aaaatgtttt atgataagcg aggataaaat tatggttaaa ttagcaattg 600
227 atatgatggg tgcgacaat gcgcctgata tcgtattaga agcgtacaa aaggctgttg 660
228 aagactttaa a 671
230 <210> SEQ ID NO: 17
231 <211> LENGTH: 623
232 <212> TYPE: DNA
233 <213> ORGANISM: Artificial Sequence
235 <220> FEATURE:
W--> 236 <221> NAME/KEY: base_polymorphism
237 <222> LOCATION: 19
238 <223> OTHER INFORMATION: /note = "'n' represents an a or g or t or c polymorphism at this
239 position
241 <220> FEATURE:
W--> 242 <221> NAME/KEY: base_polymorphism
243 <222> LOCATION: 32
244 <223> OTHER INFORMATION: /note = "'n' represents an a or g or t or c polymorphism at this
245 position
247 <220> FEATURE:
W--> 248 <221> NAME/KEY: base_polymorphism
249 <222> LOCATION: 37
250 <223> OTHER INFORMATION: /note = "'n' represents an a or g or t or c polymorphism at this
251 position
253 <220> FEATURE:
W--> 254 <221> NAME/KEY: base_polymorphism
255 <222> LOCATION: 48
256 <223> OTHER INFORMATION: /note = "'n' represents an a or g or t or c polymorphism at this

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RAW SEQUENCE LISTING  
PATENT APPLICATION: US/09/657,289A

DATE: 03/29/2001  
TIME: 12:53:23

Input Set : A:\Pto.amc  
Output Set: N:\CRF3\03292001\I657289A.raw

```

257      position
259 <220> FEATURE:
W--> 260 <221> NAME/KEY: base_polymorphism
261 <222> LOCATION: 85
262 <223> OTHER INFORMATION: /note = "'n' represents an a or g or t or c polymorphism at this
263      position
265 <220> FEATURE:
W--> 266 <221> NAME/KEY: base_polymorphism
267 <222> LOCATION: 103
268 <223> OTHER INFORMATION: /note = "'n' represents an a or g or t or c polymorphism at this
269      position
W--> 270 <220> FEATURE:
W--> 271 <221> NAME/KEY: base_polymorphism
272 <222> LOCATION: 154
273 <223> OTHER INFORMATION: /note = "'n' represents an a or g or t or c polymorphism at this
274      position
W--> 276 <220> FEATURE:
277 <223> OTHER INFORMATION: Description of Artificial Sequence: pMK4 luxABCDE Sa3
279 <400> SEQUENCE: 17
280 gatgggtaag aagaaaatnc ggcattcagg gncattngcc attcaggntg ggaactgttg 60
281 gaagggcgtc gggcggcctt ttcgntattc gcagctgcga aangggatgt gctgaaggcg 120
W--> 282 attaaagttgg gtaacgccag ggtttccag tcangcgttg taaacggcgg ccagtgaatt 180
283 cccgggggac aagccgttta agtattacga ccagtttata tcattcatgg taaaggacag 240
284 ggccttcaaa aaggtgtaca acaacatttg aaaagcataa agtgtagtg acttagaggt 300
285 ggtatgccaa ggaagggtga tttggcgtaa ccgttgcaac actaaaataa attataattt 360
286 gataaattaa atagctgcag taaaataaat gtaaagcaac aagaatacat ttcaaacatg 420
287 ttatttgaaa taagcataaa aattgagcaa atagaaatac atgaagcatg ttatctgata 480
288 taatttgaac atcataataa taattaagga ggattggcat ttatggcaat cgtaaaagta 540
289 acagatgcag attttgattc aaaagtagaa tctggtgtac aactagtaga tttttgggca 600
290 acatgggtgtg gtccatgtaa aat 623
292 <210> SEQ ID NO: 18
293 <211> LENGTH: 671
294 <212> TYPE: DNA
295 <213> ORGANISM: Artificial Sequence
297 <220> FEATURE:
W--> 298 <221> NAME/KEY: base_polymorphism
299 <222> LOCATION: 249
300 <223> OTHER INFORMATION: /note = "'n' represents an a or g or t or c polymorphism at this
301      position
303 <220> FEATURE:
304 <223> OTHER INFORMATION: Description of Artificial Sequence: pMK4 luxABCDE Sa4
306 <400> SEQUENCE: 18
307 gatgtatatt cacggggcac atgctgccga aaagcatcac cattaggtgc aatgtcatta 60
308 ctattgggac ggtttttata ttttattgct actcaagggt ttgtaaatat gcaattaatc 120
309 ggtgcgatta tctttgtatt aattacaggt cctcttttca agtcatatga ttatgaaagc 180
310 agcatataat attaaacgcg cttatactaa aaagactaaa gcgatgaaat ttcggaagac 240
W--> 311 ttaaaaagcnc aaaattgtag attatataac aaaatcatga atataaatca acaacaaaca 300
312 gcagtaagat gattccaaat taggaatgat tttactgctg ttttcttttg acattgttac 360
313 ctctttttca atgatttttt ctttgactac agattcgccc tatctacata tatctcttta 420

```

**Please Note:**

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

## VERIFICATION SUMMARY

PATENT APPLICATION: US/09/657,289A

DATE: 03/29/2001

TIME: 12:53:24

Input Set : A:\Pto.amc

Output Set: N:\CRF3\03292001\I657289A.raw

L:202 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:16  
L:208 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:16  
L:217 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:16  
L:218 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:16  
L:236 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:17  
L:242 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:17  
L:248 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:17  
L:254 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:17  
L:260 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:17  
L:266 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:17  
L:270 M:283 W: Missing Blank Line separator, <220> field identifier  
L:271 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:17  
L:280 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:17  
L:281 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:17  
L:282 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:17  
L:298 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:18  
L:311 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:18  
L:326 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:19  
L:332 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:19  
L:338 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:19  
L:344 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:19  
L:350 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:19  
L:356 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:19  
L:365 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:19  
L:366 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:19  
L:383 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:20  
L:389 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:20  
L:395 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:20  
L:401 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:20  
L:407 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:20  
L:416 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:20  
L:417 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:20  
L:435 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:21  
L:441 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:21  
L:447 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:21  
L:453 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:21  
L:463 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:21  
L:464 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:21  
L:465 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:21  
L:481 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:22  
L:492 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:22  
L:509 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:23  
L:519 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:23  
L:559 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:25  
L:570 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:25  
L:587 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:26  
L:591 M:283 W: Missing Blank Line separator, <220> field identifier  
L:592 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:26

VERIFICATION SUMMARY  
PATENT APPLICATION: US/09/657,289A

DATE: 03/29/2001

TIME: 12:53:24

Input Set : A:\Pto.amc

Output Set: N:\CRF3\03292001\I657289A.raw

L:602 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:26  
L:603 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:26



## RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/657,289A

DATE: 03/29/2001

TIME: 13:20:16

Input Set : A:\seqlist.txt

Output Set: N:\CRF3\03292001\I657289A.raw

Does Not Comply  
Corrected Diskette Needed

3 <110> APPLICANT: Francis, Kevin P.  
 4 Contag, Pamela R.  
 5 Joh, Danny J.  
 7 <120> TITLE OF INVENTION: LUCIFERASE EXPRESSION CASSETTES AND METHODS OF USE  
 9 <130> FILE REFERENCE: 9400-0006  
 11 <140> CURRENT APPLICATION NUMBER: US/09/657,289A  
 12 <141> CURRENT FILING DATE: 2000-09-07  
 14 <160> NUMBER OF SEQ ID NOS: 26  
 16 <170> SOFTWARE: PatentIn Ver. 2.0

## ERRORED SEQUENCES

175 <210> SEQ ID NO: 15  
 176 <211> LENGTH: 645  
 177 <212> TYPE: DNA  
 178 <213> ORGANISM: Artificial Sequence  
 180 <220> FEATURE:  
 181 <223> OTHER INFORMATION: Description of Artificial Sequence: pmk4 luxABCDE  
 E--> 182 sal  
 184 Sal  
 184 <400> SEQUENCE: 15  
 E--> 185 atttatctaa agatgagatt aagccaatag aacgtcatta gcaaaataaa ttatattgcg 60  
 186 tectacaagc aagttcatgc ttatgtttgt aggggggttat tgtggagaat aaaattattt 120  
 187 ccaatagaga agggatggta atcattttat agtgaaatat tatgaaattg taataattta 180  
 188 gatattgtaa aatctaataa gttgtaataa ttttaagggg taattataaa atttgatgat 240  
 189 acagtatatg atttttttgt aatcataatg tcatcaaaaca tcaacctatt atacataata 300  
 190 aaatcgtata atgatgtagt attcataaat tcggataaaa gaatgttagg aaagttaagc 360  
 191 aagaggagga ttttaaagtg caaaaaaag taattgcagc tattattggg acaagcgcg 420  
 192 ttagcgctgt tgcggcaact caagcaaag cggctacaac tcacacagta aaaccgggtg 480  
 193 aatcagtggtg ggcaatttca aataagtatg ggatttcgat tgctaaatta aagtcattaa 540  
 194 acaatttaac atctaataa attttcccaa accaagtact aaaagtatct ggtcaagta 600  
 195 attctacgag taatagtagc cgtccatcaa cgaactcagg tggcg 645  
 197 <210> SEQ ID NO: 16  
 198 <211> LENGTH: 671  
 199 <212> TYPE: DNA  
 200 <213> ORGANISM: Artificial Sequence  
 202 <220> FEATURE:  
 W--> 203 <221> NAME/KEY: base\_polymorphism  
 204 <222> LOCATION: 26  
 205 <223> OTHER INFORMATION: /note = "'n' represents an a or g or t or c polymorphism at this  
 206 position  
 208 <220> FEATURE:  
 W--> 209 <221> NAME/KEY: base\_polymorphism  
 210 <222> LOCATION: 79  
 211 <223> OTHER INFORMATION: /note = "'n' represents an a or g or t or c polymorphism at this  
 212 position

## RAW SEQUENCE LISTING

DATE: 03/29/2001

PATENT APPLICATION: US/09/657,289A

TIME: 13:20:16

Input Set : A:\seqlist.txt

Output Set: N:\CRF3\03292001\I657289A.raw

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214 <220> FEATURE:
215 <223> OTHER INFORMATION: Description of Artificial Sequence: pMK4 luxABCDE
E--> 216      sa2
218      Sa2
218 <400> SEQUENCE: 16
E--> 219 aaaaaatgag gggtagagacg tgaaantaaa gaaagataac gtagagaagc aatcagccac 60
W--> 220 caaattgata gcaatcccnt tcatcacaga ccatgaacta agcgacttat ttcaaagtga 120
221 gtatacaaac aattcggttta gatcgcaactt atttaacat accagaatta agaagcgat 180
222 taaattagtt gctgaaaaga attatgacca aataagttct attgaagaac aagaatttat 240
223 tgggtgattg attcaagtca atccaaatgt taaagcgcaa tcaattttag atattacatc 300
224 ggattctggt tttcataaaa ctggaattgc gcgtggtcat gtgctgtttg ctgaggcaaa 360
225 ttcgttatgt gttgcgctaa ttaagcaacc aacagtttta actcatgaga gtagcattca 420
226 atttattgaa aaagtaaaat taaatgatac ggtaagagca gaagcacgag ttgtaaatca 480
227 aactgcaaaa cattattacg tcgaagtaaa gtcatatgtt aaacatacat tagttttcaa 540
228 aggaaatttt aaaatgtttt atgataagcg aggataaaat tatggttaaa ttagcaattg 600
229 atatgatggg tggcgacaat gcgcctgata tcgtattaga agccgtacaa aaggctgttg 660
230 aagactttaa a                                     671
232 <210> SEQ ID NO: 17
233 <211> LENGTH: 623
234 <212> TYPE: DNA
235 <213> ORGANISM: Artificial Sequence
237 <220> FEATURE:
W--> 238 <221> NAME/KEY: base_polymorphism
239 <222> LOCATION: 19
240 <223> OTHER INFORMATION: /note = "'n' represents an a or g or t or c polymorphism at this
241      position
243 <220> FEATURE:
W--> 244 <221> NAME/KEY: base_polymorphism
245 <222> LOCATION: 32
246 <223> OTHER INFORMATION: /note = "'n' represents an a or g or t or c polymorphism at this
247      position
249 <220> FEATURE:
W--> 250 <221> NAME/KEY: base_polymorphism
251 <222> LOCATION: 37
252 <223> OTHER INFORMATION: /note = "'n' represents an a or g or t or c polymorphism at this
253      position
255 <220> FEATURE:
W--> 256 <221> NAME/KEY: base_polymorphism
257 <222> LOCATION: 48
258 <223> OTHER INFORMATION: /note = "'n' represents an a or g or t or c polymorphism at this
259      position
261 <220> FEATURE:
W--> 262 <221> NAME/KEY: base_polymorphism
263 <222> LOCATION: 85
264 <223> OTHER INFORMATION: /note = "'n' represents an a or g or t or c polymorphism at this
265      position
267 <220> FEATURE:
W--> 268 <221> NAME/KEY: base_polymorphism
269 <222> LOCATION: 103

```

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```

270 <223> OTHER INFORMATION: /note = "'n' represents an a or g or t or c polymorphism at this
271 position
W--> 272 <220> FEATURE:
W--> 273 <221> NAME/KEY: base_polymorphism
274 <222> LOCATION: 154
275 <223> OTHER INFORMATION: /note = "'n' represents an a or g or t or c polymorphism at this
276 position
W--> 278 <220> FEATURE:
279 <223> OTHER INFORMATION: Description of Artificial Sequence: pMK4 luxABCDE
E--> 280 sa3
282 Sa3
282 <400> SEQUENCE: 17
E--> 283 gatgggtaag aagaaaatnc ggcacgcagg gncattngcc attcaggntg ggaactgttg 60
W--> 284 gaagggcgctc ggcgggcctt ttcgntattc gcagctgcga aangggatgt gctgaaggcg 120
W--> 285 attaagtttg gtaacgccag ggtttcccag tcaagcgttg taaacggcgg ccagtgaatt 180
286 cccggggatc aagccgttta agtattacga ccagtttata tcattcatgg taaaggacag 240
287 ggccttcaaa aaggtgtaca acaacatttg aaaagcataa agtgtagtg acttagaggt 300
288 ggtatgccaa ggaaggtgga tttggcgta ccgttgcaac actaaaataa attataattt 360
289 gataaattaa atagctgcag ttaaaataat gtaaagcaac aagaatacat ttcaaactg 420
290 ttatttgaaa taagcataaa aattgagcaa atagaaatac atgaagcatg ttatctgata 480
291 taatttgaac atcataataa taattaagga ggattggcat ttatggcaat cgtaaaagta 540
292 acagatgcag attttgattc aaaagtagaa tctggtgtac aactagtaga tttttgggca 600
293 acatggtgtg gtccatgtaa aat 623
295 <210> SEQ ID NO: 18
296 <211> LENGTH: 671
297 <212> TYPE: DNA
298 <213> ORGANISM: Artificial Sequence
300 <220> FEATURE:
W--> 301 <221> NAME/KEY: base_polymorphism
302 <222> LOCATION: 249
303 <223> OTHER INFORMATION: /note = "'n' represents an a or g or t or c polymorphism at this
304 position
306 <220> FEATURE:
307 <223> OTHER INFORMATION: Description of Artificial Sequence: pMK4 luxABCDE
E--> 308 sa4
310 Sa4
310 <400> SEQUENCE: 18
E--> 311 gatgtatatt cacggggcac atgctgccga aaagcatcac cattaggtgc aatgtcatta 60
312 ctattgggac ggtttttata ttttattgct actcaagggt ttgtaaatat gcaattaatc 120
313 ggtgcgatta tctttgtatt aattacaggt cctcttttca agtcatatga ttatgaaagc 180
314 agcatataat attaaaacgc cttatactaa aaagactaaa gcgatgaaat ttcggaagac 240
W--> 315 ttaaaagcnc aaaattgtag attatataac aaaatcatga atataaatca acaacaaaca 300
316 gcagtaagat gattccaaat taggaatgat tttactgctg ttttcttttg acattgttac 360
317 ctctttttca atgatttttt ctttgactac agattcgccc tatctacata tatctcttta 420
318 atttaattgc ctttcatgtc gttatgtatt atgataataa taattataaa tcgtaacgat 480
319 tacgttttaa aaagagagag gttttattat gcattggaca attatcggcg gtggcataca 540
320 gggaaactgca atcgacacaa aactattatc aagcggatta acaacagacc gattaacaat 600
321 cattgacca cagcaaaactt tttgccaaag gttaaactca tatacaaatc gaatagaaat 660
322 gccttattta a 671

```

RAW SEQUENCE LISTING  
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```

324 <210> SEQ ID NO: 19
325 <211> LENGTH: 650
326 <212> TYPE: DNA
327 <213> ORGANISM: Artificial Sequence
329 <220> FEATURE:
W--> 330 <221> NAME/KEY: base_polymorphism
331 <222> LOCATION: 1
332 <223> OTHER INFORMATION: /note = "'n' represents an a or g or t or c polymorphism at this
333 position
335 <220> FEATURE:
W--> 336 <221> NAME/KEY: base_polymorphism
337 <222> LOCATION: 7
338 <223> OTHER INFORMATION: /note = "'n' represents an a or g or t or c polymorphism at this
339 position
341 <220> FEATURE:
W--> 342 <221> NAME/KEY: base_polymorphism
343 <222> LOCATION: 8
344 <223> OTHER INFORMATION: /note = "'n' represents an a or g or t or c polymorphism at this
345 position
347 <220> FEATURE:
W--> 348 <221> NAME/KEY: base_polymorphism
349 <222> LOCATION: 34
350 <223> OTHER INFORMATION: /note = "'n' represents an a or g or t or c polymorphism at this
351 position
353 <220> FEATURE:
W--> 354 <221> NAME/KEY: base_polymorphism
355 <222> LOCATION: 113
356 <223> OTHER INFORMATION: /note = "'n' represents an a or g or t or c polymorphism at this
357 position
359 <220> FEATURE:
W--> 360 <221> NAME/KEY: base_polymorphism
361 <222> LOCATION: 118
362 <223> OTHER INFORMATION: /note = "'n' represents an a or g or t or c polymorphism at this
363 position
365 <220> FEATURE:
366 <223> OTHER INFORMATION: Description of Artificial Sequence: pMK4 luxABCDE
E--> 367 sa5
369 Sa5
369 <400> SEQUENCE: 19
E--> 370 haccagnnaa aatggttaata aaaatggcag aagnaataaa aaaaggataa agagatccca 60
W--> 371 aacgggtatag agcttagtat aaaattttcg gacaataaaa taaatacggg ttnaaccnaa 120
372 ttttaacggg aaagcacttc agaatatggt gtgtttgatc agaataaaa ttaatgatga 180
373 aaatttaacg gagaatagtg tatatagagt agatcaagaa taaaaagata attctactat 240
374 tgttgtgaag gcaaataagt agaagatttt aagtgttaatt tctggtgatt taaataataa 300
375 tataaatgga agtactgata taaaactttt taacctacta gattcttata atttgctttc 360
376 cattttatga cgatttttac tcaattgagt gatagaatca aaaaagccat ctcaaaaatt 420
377 aatcaagcaa acaacattcc aaacaatgct cgcaaatcac caatgtatca ctctccaatt 480
378 acgtaactat gattttaatt aagcatagtt attgagggtt tgtgatatat agtataaaat 540
379 taatgagaat taaatttaat aatgtaaaat tcattcttcg ggtcgggtgt aattcccaac 600

```

RAW SEQUENCE LISTING  
PATENT APPLICATION: US/09/657,289A

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Input Set : A:\seqlist.txt  
Output Set: N:\CRF3\03292001\I657289A.raw

```

380 cggcagtaaa taaagcctgc gacctgctag tatgtatcat attagtggct 650
382 <210> SEQ ID NO: 20
383 <211> LENGTH: 677
384 <212> TYPE: DNA
385 <213> ORGANISM: Artificial Sequence
387 <220> FEATURE:
W--> 388 <221> NAME/KEY: base_polymorphism
389 <222> LOCATION: 19
390 <223> OTHER INFORMATION: /note = "'n' represents an a or g or t or c polymorphism at this
391 position
393 <220> FEATURE:
W--> 394 <221> NAME/KEY: base_polymorphism
395 <222> LOCATION: 66
396 <223> OTHER INFORMATION: /note = "'n' represents an a or g or t or c polymorphism at this
397 position
399 <220> FEATURE:
W--> 400 <221> NAME/KEY: base_polymorphism
401 <222> LOCATION: 97
402 <223> OTHER INFORMATION: /note = "'n' represents an a or g or t or c polymorphism at this
403 position
405 <220> FEATURE:
W--> 406 <221> NAME/KEY: base_polymorphism
407 <222> LOCATION: 99
408 <223> OTHER INFORMATION: /note = "'n' represents an a or g or t or c polymorphism at this
409 position
411 <220> FEATURE:
W--> 412 <221> NAME/KEY: base_polymorphism
413 <222> LOCATION: 119
414 <223> OTHER INFORMATION: /note = "'n' represents an a or g or t or c polymorphism at this
415 position
417 <220> FEATURE:
418 <223> OTHER INFORMATION: Description of Artificial Sequence: pMK4 luxABCDE
E--> 419 sa6
421 Sa6
421 <400> SEQUENCE: 20
E--> 422 cggaagaacg ctttgaagnt taagctaatt acatctcatc atatgcacgg agatccttaa 60
W--> 423 atgcnaaatt gaaagatatt tatatgaatc atcgagnong tcttgatgta gctattgcna 120
424 gcagatgata tttgtccagc aataactaat ggggaacaag tgaaaggcct ttacctttat 180
425 ggtccatttg ggcaggtaaa tcttttattc taggtgcaat tgcggaatca gctcaaattct 240
426 aagaaggtag gttcgacaat tatttattta ccgggaattt attagaacat taaaagggtgg 300
427 ctttaaagat ggttcttttg aaaagaaatt acatcgcgta agagaagcaa acattttaat 360
428 gcttgatgat attggggctg aagaagtgcac tccatgggtg agagatgagg taattggacc 420
429 tttgctacat tatcgatggg ttcatagaatt accaacattc tttagtctta attttgacta 480
430 tagtgaattg gaacatcatt tagcgatgac tcgtgatggt gaagagaaga ctaaagcagc 540
431 acgtattatt gaacgtgtca aatctttgtc aacaccatac tttttatcag gagaaaattt 600
432 cagaaacaat tgaattttta aatgattggt gtataatgaa tacaaatcta aatcgtttta 660
433 atgattgaag acaagat 677

```

## VERIFICATION SUMMARY

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Input Set : A:\seqlist.txt

Output Set: N:\CRF3\03292001\I657289A.raw

L:182 M:254 E: No. of Bases conflict, LENGTH:Input:1 Counted:2 SEQ:15  
L:182 M:112 C: (48) String data converted to lower case,  
L:182 M:252 E: No. of Seq. differs, <211>LENGTH:Input:645 Found:2 SEQ:15  
L:203 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:16  
L:209 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:16  
L:216 M:112 C: (48) String data converted to lower case,  
L:216 M:252 E: No. of Seq. differs, <211>LENGTH:Input:671 Found:2 SEQ:16  
L:219 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:0  
L:220 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:0  
L:238 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:17  
L:244 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:17  
L:250 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:17  
L:256 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:17  
L:262 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:17  
L:268 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:17  
L:272 M:283 W: Missing Blank Line separator, <220> field identifier  
L:273 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:17  
L:280 M:254 E: No. of Bases conflict, LENGTH:Input:3 Counted:2 SEQ:17  
M:112 Repeated in SeqNo=17  
L:280 M:252 E: No. of Seq. differs, <211>LENGTH:Input:623 Found:2 SEQ:17  
L:283 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:0  
L:284 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:0  
L:285 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:0  
L:301 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:18  
L:308 M:254 E: No. of Bases conflict, LENGTH:Input:4 Counted:2 SEQ:18  
M:112 Repeated in SeqNo=18  
L:308 M:252 E: No. of Seq. differs, <211>LENGTH:Input:671 Found:2 SEQ:18  
L:315 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:0  
L:330 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:19  
L:336 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:19  
L:342 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:19  
L:348 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:19  
L:354 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:19  
L:360 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:19  
L:367 M:254 E: No. of Bases conflict, LENGTH:Input:5 Counted:2 SEQ:19  
M:112 Repeated in SeqNo=19  
L:367 M:252 E: No. of Seq. differs, <211>LENGTH:Input:650 Found:2 SEQ:19  
L:370 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:0  
L:371 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:0  
L:388 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:20  
L:394 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:20  
L:400 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:20  
L:406 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:20  
L:412 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:20  
L:419 M:254 E: No. of Bases conflict, LENGTH:Input:6 Counted:2 SEQ:20  
M:112 Repeated in SeqNo=20  
L:419 M:252 E: No. of Seq. differs, <211>LENGTH:Input:677 Found:2 SEQ:20  
L:422 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:0

## VERIFICATION SUMMARY

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Input Set : A:\seqlist.txt

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L:423 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:0  
L:441 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:21  
L:447 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:21  
L:453 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:21  
L:459 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:21  
L:469 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:21  
L:470 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:21  
L:471 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:21  
L:487 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:22  
L:498 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:22  
L:515 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:23  
L:525 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:23  
L:565 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:25  
L:576 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:25  
L:593 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:26  
L:597 M:283 W: Missing Blank Line separator, <220> field identifier  
L:598 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:26  
L:608 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:26  
L:609 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:26